1. A method of forming a semiconductor alloy layer, comprising the steps of:

providing a semiconductor substrate;

growing a graded, first semiconductor alloy layer wherein the content of a component of said graded, first semiconductor alloy layer is decreased as the growth of said graded, first semiconductor alloy layer progresses;

growing a second semiconductor alloy layer on said graded, first semiconductor alloy layer, wherein the content of said component in said second semiconductor alloy layer is uniform, and wherein said second semiconductor alloy layer is in a strain relaxed form; and

forming a semiconductor layer on said relaxed second semiconductor alloy layer, wherein said semiconductor layer is comprised with tensile strain.

2. The method of claim 1, wherein said semiconductor substrate is a silicon semiconductor substrate, or a GaAs substrate.

3. The method of claim 1, wherein said graded, first semiconductor alloy layer is a silicon - germanium layer or an InGaAs layer.

4. The method of claim 1, wherein said graded, first semiconductor alloy layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures.

5. The method of claim 1, wherein said component in said graded, first semiconductor alloy layer, for a silicon - germanium alloy layer, is germanium.

6. The method of claim 1, wherein said graded, first semiconductor alloy layer is grown to a thickness between about 300 to 1000 Angstroms.

7. The method of claim 1, wherein said graded, first semiconductor alloy layer is comprised with a group of semiconductor alloy layer portions denoted as $Si_{(1-x)}Ge_x$, wherein x is the content in weight percent of said component, and wherein x1 is the content in weight percent of said component in the portion of said graded, first semiconductor alloy layer located at the semiconductor substrate surface and with decreasing weight percent of said component denoted by x2, x3, and xn, wherein xn is the content in weight percent of said component at the top surface of said graded, first semiconductor alloy layer.

8. The method of claim 1, wherein the content in weight percent of said component in said graded, first semiconductor alloy layer, ranges between about 50 to 0 %.

9. The method of claim 1, wherein said second semiconductor alloy layer is a silicon - germanium layer or a InGaAs layer.

10. The method of claim 1, wherein said second semiconductor alloy layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures.

11. The method of claim 1, wherein said second semiconductor alloy layer is grown to a thickness between about 2,000 to 10,000 Angstroms.

12. The method of claim 1, wherein said second semiconductor alloy layer is comprised with a weight percent of said component, between about 20 to 100 %.

13. The method of claim 1, wherein said semiconductor layer is a silicon layer for the silicon - germanium example, or a InP layer for the InGaAs example.

14. The method of claim 1, wherein said semiconductor layer is obtained via MBE or via LPCVD procedures at a thickness between about 100 to 200 Angstroms.

15. A method of forming a strain relaxed silicon -germanium layer, comprising the steps of:

providing a semiconductor substrate;

growing a graded silicon - germanium layer wherein the content of a germanium component in said graded silicon germanium layer is decreased as the growth of said graded, first silicon - germanium layer progresses;

growing a relaxed silicon - germanium layer on said graded silicon - germanium layer, in situ in same apparatus used for growth of said graded silicon - germanium layer, and wherein the content of germanium component in said relaxed silicon - germanium layer is uniform; and

forming a silicon layer on said relaxed silicon - germanium layer, in situ in said apparatus, and wherein said silicon layer is comprised with tensile strain.

16. The method of claim 15, wherein said semiconductor substrate is a silicon semiconductor substrate.

17. The method of claim 15, wherein said graded silicon - germanium layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures, to a thickness between about 300 to 1000 Angstroms.

18. The method of claim 15, wherein said graded silicon - germanium layer is grown using silane or disilane as a silicon source, and using germane as a germanium source.

19. The method of claim 15, wherein said graded silicon - germanium is comprised with a group of silicon - germanium portions denoted as $Si_{(1-x)}Ge_x$, wherein x is the weight percent of germanium, and wherein x1 is the weight percent of germanium in the portion of said graded silicon - germanium layer located at the semiconductor substrate surface and with decreasing weight percentages of germanium denoted by x2, x3, and xn, wherein xn is the weight percent of germanium at the top surface of said graded silicon - germanium layer.

20. The method of claim 15, wherein the weight percent of germanium in said graded silicon - germanium layer ranges between about 50 to 0 %.

21. The method of claim 15, wherein said relaxed silicon - germanium layer is obtained via molecular beam epitaxy (MBE) or via low pressure chemical vapor deposition (LPCVD) procedures at a thickness between about 2,000 to 10,000 Angstroms.

22. The method of claim 15, wherein said relaxed silicon - germanium layer is grown using silane or disilane as a silicon source, and using germane as a germanium source.

23. The method of claim 15, wherein said relaxed silicon - germanium layer is comprised with a germanium weight percent between about 20 to 100 %.

24. The method of claim 15, wherein said silicon layer is obtained via MBE or via LPCVD procedures at a thickness between about 100 to 200 Angstroms.

25. The method of claim 15, wherein said silicon layer is grown using silane or disilane as a source.